Nursing Students' Level of Satisfaction with the Comprehensive Nursing Aptitude Test

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ABSTRACT

Assessment is an important part of nursing education, and the Comprehensive Nursing Aptitude Test (CNAT) is a major tool used to measure students' understanding of key subjects and their readiness for clinical practice. This study, "Nursing Students' Level of Satisfaction with the Comprehensive Nursing Aptitude Test," looks at how satisfied students are with the CNAT using five SERVQUAL areas: tangibility, reliability, responsiveness, assurance, and empathy. It also examines if satisfaction levels differ based on age, sex, year level, and living situation. The study used a quantitative, descriptive-comparative design and surveyed 229 second- to fourth-year nursing students from NEUST, selected through stratified random sampling. Results showed that students were generally highly satisfied with the CNAT. Among the five areas, reliability got the highest average score (3.56), followed by assurance and empathy. Satisfaction varied by age and year level, with younger and second-year students being more satisfied. These findings show that students' satisfaction with the CNAT is affected by their age and level in the program. Improving the physical setup of the test (tangibility) and the quickness of help or support (responsiveness) may increase satisfaction. The study supports the creation of a CNAT Guidebook to standardize procedures and improve the quality of the test-taking process. This research contributes to the continuous improvement of nursing assessments and a more supportive academic environment.

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1. INTRODUCTION

Assessment and evaluation are important to nursing education, serving as measures of students' academic progress and professional readiness **(Ellison et al., 2023**). Comprehensive nursing aptitude tests (CNATs) have become a foundation of nursing education, designed to assess students' knowledge, critical thinking, and clinical decision-making skills in preparation for licensure examinations (Johnson et al., 2022).

However, the examination experience significantly affects students' overall satisfaction, shaping their attitudes toward learning and their view of the nursing profession **(Firdousi et al., 2024).** The CNAT was

introduced to standardize assessments in nursing education and ensure students are equipped with the knowledge and skills for clinical practice. CNAT is initially designed to measure academic performance and clinical competence, it has become essential for identifying strengths and areas for improvement. The CNAT remains a crucial tool in maintaining academic standards as nursing education evolves (Jaiswal et al., 2020).

The CNAT is conducted at the end of the first semester of the second year in nursing programs, specifically every December after the final examinations. It serves as an essential standard to assess students' academic performance, knowledge, and readiness to advance in their nursing education (Abdelaziz & Abu-Snieneh, 2022; El-Gazar et al., 2024). Results of the CNAT are typically released within a week, giving students timely feedback on their performance. To qualify for the CNAT, students must have completed and passed key nursing subjects without failing grades. These subjects include Fundamentals of Nursing, Theoretical Foundation of Nursing, Health Education, Anatomy and Physiology, Health Assessment, Community Health Nursing, Bioethics, Pharmacology, Nutrition and Diet Therapy, and Maternal and Child Health Nursing.

The exam is conducted over two days, during which students are allocated two hours per session to complete each test. The test is divided into five key parts to broadly assess knowledge in various nursing subjects. CNAT-1 evaluates students on Fundamentals of Nursing, Theoretical Foundation of Nursing, and Health Education, while CNAT-2 covers Anatomy and Physiology and Health Assessment. CNAT-3 focuses on Community Health Nursing, CNAT-4 assesses students' knowledge of Bioethics, Pharmacology, and Nutrition and Diet Therapy, and finally, CNAT-5 focuses on Maternal and Child Health Nursing. This organized structure allows for an in-depth evaluation of students' knowledge across core nursing areas, ensuring that they are equipped to handle the challenges of clinical practice (Aryuwat et al., 2024; Zamanzadeh et al., 202).

Passing the CNAT is an important achievement for nursing students as it qualifies them for the Capping and Pinning Ceremony. This ceremony is a meaningful and memorable event for every student nurse, marking their official entry into clinical practice (Estes et al., 2024). It reflects their dedication, hard work, and readiness to deliver compassionate and skilled patient care. On the other hand, students who do not pass the CNAT are not eligible for the capping and pinning ceremony. However, they are given chances to retake the exam, allowing them to improve and show their competency at a later time.

The CNAT ensures nursing students meet academic standards and are prepared for safe, high-quality care in healthcare settings (Al-Worafi & Alsergai, 2024; Hoffman & Willemse, 2024; Robertson et al., 2024). It identifies strengths and knowledge gaps, allowing educators to provide targeted support. As a key step in academic progression, the CNAT helps students gain confidence and equips them to meet the demands of the evolving healthcare industry (Sharda, 2025).

This study aims to explore nursing students' satisfaction with their examination experiences, focusing on the CNAT. By identifying the factors that contribute to or detract from their satisfaction, the research provides valuable insights for academic improvement and the refinement of aptitude test practices. The findings are expected to inform educators and policymakers about the critical examination design and implementation aspects affecting student satisfaction and learning outcomes. Additionally, the results of this research will contribute to developing a CNAT administration handbook, offering guidelines for improving the administration and satisfaction of future examinations.

2. RESEARCH METHOD

The study employed a quantitative research approach with a descriptive-comparative cross-sectional design to systematically assess and compare nursing students' levels of satisfaction with the Comprehensive Nursing Aptitude Test (CNAT). This design was selected as it allows for an objective examination of variations in satisfaction levels among different demographic groups, including year level, age, sex, and residence, without manipulating any variables (Devi, 2023; Maina, 2021).

The research was conducted at Nueva Ecija University of Science and Technology (NEUST) with 229 second- to fourth-year BSN students from the 2024–2025 academic year, selected using the Raosoft sample size calculator with a 5% margin of error and 95% confidence level. A structured questionnaire was used, consisting of two parts: the first gathered demographic data such as age, gender, year level, and living arrangement, while the second measured CNAT satisfaction based on the SERVQUAL dimensions. To ensure reliability and validity, the questionnaire underwent expert review by five specialists, with a score of 4.63 out of 5, and pilot testing with 23 students with an overall Cronbach's Alpha score of 0.845, both indicating a high level of internal consistency and reliability. A Likert scale was used to measure satisfaction levels.

Prior to data collection, the researchers submitted a research ethics letter to the NEUST Research Ethics Committee to ensure that all ethical considerations, including informed consent, confidentiality, and voluntary participation, were properly observed. Only after receiving ethical clearance did the researchers proceed with the data gathering process.

Descriptive statistics such as frequency counts and percentages were employed to present the demographic profile of the respondents. Descriptive statistics are best suited to summarizing and structur; ing data, providing a good representation of the distribution of demographic characteristics (Alabi & Bukola, 2023;

Polit & Beck, 2008). It allows researchers to present data in a plain and easy-to-read manner, and patterns and trends in the sample population are easy to recognize.

Mean and standard deviation, and their corresponding adjectival ratings, were used to measure the level of satisfaction with the CNAT. Mean and standard deviation are good measures of the central tendency and spread of the satisfaction levels and provide an in-depth description of how the respondents perceive the test (Field, 2024; Moscarola, 2022). Adjectival ratings simplify the results because they translate the numerical scores into understandable categories.

Furthermore, Analysis of Variance (ANOVA) and Tukey's Post Hoc Test were used to determine if levels of satisfaction varied significantly based on demographic factors such as year level, age, sex, and living arrangement. ANOVA can efficiently compare more than two groups' means to determine statistically significant differences (Potvin, 2020). Tukey's Post Hoc Test was used to determine which specific groups differed, and additionally, the direction of these differences (Field, 2024).

By utilizing descriptive statistics, the study provided a comprehensive overview of students' satisfaction, while ANOVA was applied to determine significant differences between groups. This statistical method ensured the precise measurement of variations, allowing for a deeper understanding of factors influencing satisfaction. The descriptive-comparative design was particularly suitable as it facilitated the identification of patterns and trends, enabling the researchers to draw meaningful conclusions regarding student experiences. The findings from this research serve as a foundation for potential improvements in the administration of the CNAT, aiming to enhance student satisfaction and optimize the effectiveness of the assessment process.

3. RESULT AND DISCUSSION

Based on the research results, the following results were obtained:

3.1 Description of the Respondents' Profile

The table below presents the frequency and percentage distribution of the nursing student respondents based on their year level, age, sex, and living arrangement. These data illustrate the composition of the respondent group.

Table 1. Profile of Nursing Student-Respondents

Variables	Frequency (n=229)	Percentage (%)
Year Level		
2nd year	94	41.05
3rd year	85	37.12
4th year	50	21.83
Age		
18-20 years old	135	58.95
21-22 years old	88	38.43
23-25 years old	6	2.62
Sex		
Male	70	30.57
Female	159	69.43
Living Arrangement		
Own house	102	44.74
Apartment	80	35.09
Boarding House	14	6.14
Shared house with friends	3	1.32
Shared house with relatives	29	12.72

Table 1 presents the demographic profile of the 229 nursing student-respondents. Most respondents were second-year students, with 94 students (41.05%) and aged 18–20 years old (58.95%). The majority were female (69.43%). Regarding living arrangements, 44.74% lived in their own house, followed by 35.09% in apartments. A smaller portion lived in boarding houses (6.14%) or shared housing with friends (1.32%) or relatives (12.72%).

3.2 Level of Satisfaction on the Comprehensive Nursing Aptitude Test

The table below presents the respondents' satisfaction levels with the Comprehensive Nursing Aptitude Test (CNAT), analyzed using the mean and standard deviation.

Table 2. Summary Table for Respondents' Satisfaction Level on CNAT

Variables	Mean	SD	Verbal Description
Tangibility	3.30	0.52	Highly Satisfied
Reliability	3.56	0.53	Highly Satisfied
Responsiveness	3.46	0.49	Highly Satisfied
Assurance	3.55	0.47	Highly Satisfied
Empathy	3.48	0.50	Highly Satisfied
Overall	3.47	0.41	Highly Satisfied

Legend: 3.25-4.00=Highly Satisfied; 2.50-3.24=Moderately Satisfied; 1.75-2.49=Slightly Satisfied; 1.00-1.74=Not at All Satisfied

Table 2 presents the respondents' satisfaction levels with the CNAT based on five SERVQUAL dimensions. The highest satisfaction was observed in Reliability (mean = 3.56, SD = 0.53) and Assurance (mean = 3.55, SD = 0.47), indicating that the test was perceived as reliable and that the test administrators were professional and competent. Empathy (mean = 3.48, SD = 0.50) and Responsiveness (mean = 3.46, SD = 0.49) also reflected high satisfaction, suggesting that students felt supported and that their concerns were addressed promptly. Tangibility (mean = 3.30, SD = 0.52) received the lowest mean but still indicated a high satisfaction level, implying that the physical testing environment and materials were satisfactory. The overall satisfaction level was 3.47 with a standard deviation of 0.41, categorizing the respondents as Highly Satisfied with the CNAT.
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Table 3. Respondents' Satisfaction Level on CNAT in terms of Tangibility

Items	Mean	SD	Verbal Description
1. The font size, style, and layout of the CNAT materials were easy to read and did not cause distractions.	3.42	0.64	Strongly Agree
2. The instructions and test questions were clearly written and well-organized.	3.47	0.63	Strongly Agree
3. The test materials were professionally designed and free from typographical, grammatical, or formatting errors.	3.13	0.75	Agree
4. The design and formatting of the test materials helped maintain focus and consistency throughout the exam.	3.31	0.67	Strongly Agree
5. The test materials were complete, with no missing pages, unclear prints, or incomplete information.	3.20	0.79	Agree
6. The seating arrangement, chairs, and desks were comfortable and appropriate for the test duration.	3.36	0.75	Strongly Agree
7. The testing room had sufficient lighting, proper temperature control, and adequate spacing between test takers.	3.26	0.82	Strongly Agree
8. The testing environment was quiet and free from disturbances.	3.17	0.87	Agree
9. The overall design and setup of the testing environment provided a professional and focused testing experience.	3.33	0.68	Strongly Agree
Grand Mean	3.30	0.52	Highly Satisfied

Legend: 3.25-4.00=Strongly Agree; 2.50-3.24=Agree; 1.75-2.49=Disagree; 1.00-1.74=Strongly Disagree

Table 3 presents the respondents' satisfaction with the Comprehensive Nursing Aptitude Test (CNAT) based on tangibility, including the physical surroundings, testing materials, and general appearance of the test setup. The item that received the highest score was Item 2 with an average rating of 3.47 (SD = 0.63), which showed that respondents greatly agreed that the test was clearly written and well-organized. Item 3 had the lowest mean rating of 3.13 (SD = 0.75), although the low standard deviation indicates overall consensus among the respondents. This means that students generally perceived the test materials as not being of professional quality, indicating the necessity for improvement in terms of design accuracy and error minimization.

Table 4. Respondents' Satisfaction Level on CNAT in terms of Reliability

Items	Mean	SD	Verbal Description
1. The test content aligned with the nursing curriculum, covering key concepts and real-world applications relevant to nursing practice.	3.67	0.48	Strongly Agree

Items		Mean	SD	Verbal Description
2.	The difficulty level of the test questions was appropriate and reflected what was taught in the nursing program.	3.53	0.57	Strongly Agree
3.	The test questions and answer options were accurate, precise, and met the standards of nursing education.	3.55	0.56	Strongly Agree
4.	The exam items were consistent across different versions or occurrences, ensuring fairness.	3.51	0.58	Strongly Agree
5.	The test schedule and logistics were adhered to as announced, providing equal opportunities for all test takers.	3.51	0.69	Strongly Agree
6.	The test administration ensured sufficient time for all students to complete the exam with proper pacing and structure.	3.41	0.72	Strongly Agree
7.	The materials and equipment provided were adequate and supported the testing process effectively.	3.50	0.58	Strongly Agree
8.	The test coverage reflected the nursing program's objectives with comprehensive and relevant content.	3.74	2.73	Strongly Agree
9.	The overall administration and content of the test ensured a fair and reliable assessment of nursing knowledge and skills.	3.58	0.55	Strongly Agree
Grand Mean		3.56	0.53	Highly Satisfied

Legend: 3.25-4.00=Strongly Agree; 2.50-3.24=Agree; 1.75-2.49=Disagree; 1.00-1.74=Strongly Disagree

Table 4 presents the satisfaction of the respondents with the CNAT, specifically its reliability, which includes the consistency and dependability of the test. Item 8 was the most highly rated item, with a mean score of 3.74 (SD = 2.73), suggesting that students strongly agreed the CNAT reliably reflected the nursing program's objectives through its comprehensive and relevant content. Conversely, Item 6 had the lowest rating of 3.41 (SD = 0.72), which suggests that students perceived the test administration as adequate but saw room for improvement in ensuring consistent pacing, time allocation, and structural organization during the exam.

Table 5. *Respondents' Satisfaction Level on CNAT in terms of Responsiveness*

Items		Mean	SD	Verbal Description
1.	Pre-test instructions, including the purpose, structure, and rules of the CNAT, were communicated clearly.	3.43	0.66	Strongly Agree
2.	The schedule, including any changes to the date, time, or location of the CNAT, was communicated promptly and clearly.	3.33	0.79	Strongly Agree
3.	Test proctors were responsive to student inquiries and clarifications during the CNAT process.	3.58	0.57	Strongly Agree
4.	Time reminders and guidance during the test were helpful, ensuring students could pace themselves effectively.	3.50	0.67	Strongly Agree
5.	The time provided to complete the CNAT was appropriate for the number and difficulty of questions.	3.37	0.76	Strongly Agree
6.	The structure and pacing of the test allowed adequate time for students to review and revise their answers.	3.32	0.74	Strongly Agree
7.	Proctors and administrators ensured smooth test administration and addressed disruptions efficiently.	3.46	0.67	Strongly Agree
8.	Proctors and administrators encouraged students to raise concerns or inquiries before and during the exam.	3.57	0.59	Strongly Agree
9.	Test proctors provided helpful time reminders or guidance during the CNAT.	3.54	0.62	Strongly Agree
Grand Mean		3.46	0.49	Highly Satisfied

Legend: 3.25-4.00=Strongly Agree; 2.50-3.24=Agree; 1.75-2.49=Disagree; 1.00-1.74=Strongly Disagree

Table 5 demonstrates the level of respondents' satisfaction with the CNAT in terms of Responsiveness. The item with the highest rating, Item 3, was rated at a mean of 3.58 (SD = 0.57), indicating that respondents were very satisfied with the responsiveness of test proctors, highlighting their effective communication and willingness

to address student inquiries and clarifications during the CNAT process. The item rated lowest was Item 6, yet it still had a very high mean rating of 3.32 (SD = 0.74), indicating that while improvements may be needed, students generally felt that the test's structure and pacing provided sufficient time for review and revision.

Table 6. Respondents' Satisfaction Level on CNAT in terms of Assurance

Items		Mean	SD	Verbal Description
1.	Test administrators managed the CNAT with competence and professionalism.	3.59	0.54	Strongly Agree
2.	Rules for test administration were applied equally and fairly to all students.	3.60	0.53	Strongly Agree
3.	Confidentiality protocols ensured the protection of students' personal information and test results.	3.64	0.53	Strongly Agree
4.	The evaluation of test performance was unbiased and reflected fair assessment practices.	3.70	1.96	Strongly Agree
5.	The test administrators consistently interact with all test-takers respectfully and courteously.	3.55	0.53	Strongly Agree
6.	The administrators' handling of issues and emergencies demonstrated their expertise and preparedness.	3.43	0.64	Strongly Agree
7.	The fairness and consistency of the test administration positively impacted the testing experience.	3.57	0.55	Strongly Agree
8.	Students felt confident in the administration's ability to manage the test without errors or delays.	3.36	0.67	Strongly Agree
9.	The professionalism and fairness of test administrators ensured a positive and stress-free testing environment.	3.46	0.62	Strongly Agree
Grand Mean		3.55	0.47	Highly Satisfied

Legend: 3.25-4.00=Strongly Agree; 2.50-3.24=Agree; 1.75-2.49=Disagree; 1.00-1.74=Strongly Disagree

Table 6 presents the respondents' satisfaction level with the CNAT in terms of Assurance. The highest-rated item was Item 4, with a mean of 3.70 (SD = 1.96), indicating strong agreement among respondents that the CNAT ensures an unbiased evaluation of test performance, reflecting fair assessment practices. The lowest-rated item was Item 8, with a mean of 3.36 (SD = 0.67); it still reflects strong agreement that students felt confident in the administration's ability to manage the test without errors or delays, suggesting overall satisfaction with test administration.

Table 7. Respondents' Satisfaction Level on CNAT in terms of Empathy

Items		Mean	SD	Verbal Description
1.	Test administrators were approachable, attentive, and responsive to student concerns before, during, and after the CNAT.	3.54	0.62	Strongly Agree
2.	Accommodations and adjustments were made to ensure fairness for students with special needs.	3.48	0.60	Strongly Agree
3.	Administrators proactively checked on students during the test to ensure smooth progress and address concerns.	3.49	0.59	Strongly Agree
4.	The proctors demonstrated awareness and sensitivity toward students requiring special consideration.	3.48	0.60	Strongly Agree
5.	Efforts were made to create a calm and supportive atmosphere to reduce test-related stress.	3.39	0.68	Strongly Agree
6.	Guidance and follow-up services, such as explaining test results, were helpful and accessible.	3.42	0.70	Strongly Agree
7.	The test administrators demonstrated genuine care by addressing students' specific needs and concerns.	3.47	0.66	Strongly Agree
8.	Administrators showed understanding and professionalism when addressing student concerns or challenges.	3.52	0.60	Strongly Agree

Items	Mean	SD	Verbal Description
9. Proctors' overall atmosphere and responsiveness contributed to a supportive and stress-free testing experience.	3.48	0.67	Strongly Agree
Grand Mean	3.48	0.50	Highly Satisfied

Legend: 3.25-4.00=Strongly Agree; 2.50-3.24=Agree; 1.75-2.49=Disagree; 1.00-1.74=Strongly Disagree

Table 7 presents the respondents' satisfaction level with the CNAT in terms of Empathy. The highest-rated item was Item 1, with a mean of 3.54 (SD = 0.62), indicates that respondents strongly agreed that test administrators were approachable, attentive, and responsive to student concerns before, during, and after the CNAT, reflecting a high level of empathy in their interactions. The lowest-rated item was Item 5, with a mean of 3.39 (SD = 0.68), although the lowest-rated in the Empathy dimension, still demonstrates strong agreement, suggesting that efforts to create a calm and supportive atmosphere to reduce test-related stress were generally perceived positively by students, with room for further improvement.

3.3 Analysis of Satisfaction Levels Based on Respondent Demographics

To address the third objective of the study, the respondents' profile and their satisfaction levels on CNAT were gathered and analyzed to determine significant differences in satisfaction levels as to their profiles.

Table 8. Satisfaction Level on CNAT by Demographic Profile

Variables	Mean	SD	F-value	p-value
Year Level				
2nd year	3.59_a	0.37	8.099**	0.000
3rd year	3.36_b	0.42		
4th year	3.41_b	0.40		
Age				
18-20 years old	3.53_a	0.40	3.903*	0.022
21-22 years old	3.37_b	0.40		
23-25 years old	3.43_{ab}	0.45		
Sex				
Male	3.49	0.42	0.342	0.559
Female	3.46	0.40		
Living Arrangement				
Own house	3.44	0.41	0.828	0.509
Apartment	3.52	0.39		
Boarding House	3.51	0.38		
Shared house with friends	3.34	0.59		
Shared house with relatives	3.39	0.43		

*Legend: **significant at 0.01 level *significant at 0.05 level*
Means with the same subscript are not different using the Tukey Post Hoc Test

The analysis of the significant differences in nursing students' satisfaction levels with the Comprehensive Nursing Aptitude Test (CNAT) based on their profile variables reveals that a significant difference in satisfaction levels was observed across year levels (F = 8.099, p = 0.000), indicating that satisfaction varies depending on students' academic standing. The mean scores show that second-year students (Mean = 3.59, SD = 037) reported significantly higher satisfaction than third-year (Mean = 3.36, SD = 0.42) and fourth-year (Mean = 3.41, SD = 0.40) students. The Tukey post hoc test confirms that the third- and fourth-year students do not differ significantly, but both groups have lower satisfaction than second-year students. This may suggest that as students progress in their nursing education, they may develop higher expectations or encounter increased academic challenges that affect their satisfaction with the CNAT.

4. CONCLUSION

Based on the findings, the following conclusions were drawn:
1) In the Result and Discussion section, under 3.1 Description of the Respondents' Profile (Table 1: Profile of Nursing Student-Respondents), the results show that the respondents were mostly second-year with 94 students (41.05%) and aged 18–20 years old (58.95%)., and female (69.43%). This implies that the majority of the respondents are at the beginning of their nursing program, and hence, they might be at the early stage of their experience and perception regarding the CNAT. Most students are younger and female may also

imply that nursing continues to be drawn to a predominantly female population, as with wider trends in the nursing workforce. In addition, the large proportion of respondents residing in their own house (44.74%) or apartment (35.09%) indicates that most students occupy a relatively settled and stable living environment. The lower proportion of students residing in shared accommodations with friends or family suggests that a minority might experience more complicated or less secure living situations. These demographic findings offer important background for understanding the factors that might affect nursing students' satisfaction with the CNAT.

2) The research found that nursing students were overall highly satisfied with the CNAT, particularly valuing its reliability (mean = 3.56, SD = 0.53) and Assurance (mean = 3.55, SD = 0.47). The slightly lower ratings for tangibility and responsiveness suggest that improvements in the physical testing environment and the promptness of assistance during the exam could further enhance satisfaction.

3) The study concluded with supporting evidence (Table 8. Satisfaction Level on CNAT by Demographic Profile) that age and year level had a significant impact on nursing students' satisfaction with the CNAT, with younger and second-year students reporting higher satisfaction. However, sex and living arrangements did not significantly influence satisfaction levels. These results indicate that targeted interventions may be needed to address concerns raised by older and higher-year students, ensuring a more inclusive and positive testing experience.

4) The results of this study highlight the value of creating a CNAT Student Guidebook that offers nursing students critical information, preparation techniques, and standardized procedures to effectively complete the CNAT. By responding to influential factors on satisfaction, year level, age expectations, and the important SERVQUAL factors of tangibility, assurance, and empathy, the guidebook can be designed to increase clarity, fairness, and assistance during the testing process. In addition to this, personalized guidance based on the developmental interests of nursing students will enhance confidence, preparedness, and satisfaction with CNAT. Thus, the guidebook will function not just as an instructional method but also as a critical assistance mechanism that assures a more favorable and empowering assessment environment for everybody.

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